

NEW SPECIES OF IRBISIA REUTER
(HEMIPTERA, MIRIDAE).

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Irbisia shulli n. sp.

Differs from *sericans* Stål in the shorter antennal segments and uniformly black tibiae; color suggestive of *nigripes* Kngt., but differs in the longer rostrum and broader head; first antennal segment not equal to width of vertex between eyes. Color uniformly black, moderately shining; female brachypterous.

Male. Length 6 mm., width 2.6 mm. Head: width 1.38 mm., vertex .75 mm.; basal carina bluntly prominent, declivous to vertex level, frons broad, moderately convex; tylus arcuate as viewed from the side, juga and lora strongly convex, eyes moderately prominent. Rostrum, length 2.04 mm., reaching slightly beyond middle of hind coxae. Antennae: first segment, length .65 mm.; II, 1.86 mm., cylindrical, finely pubescent; III, 1.03 mm.; IV, 1.21 mm. Pronotum, length 1.12 mm., width at base 2.03 mm.; disk punctate, some punctures confluent, rugulose; calli moderately convex, confluent anteriorly, each with a foveate impression near inner anterior angles; lateral margins rather sharply angulate, longitudinal outline slightly concave, anterior angles sharply prominent; ventral margin of propleura, ostiolar peritreme, and narrowly bordering base of middle coxae, white. Scutellum moderately convex, transversely rugulose, punctures indistinct. Dorsum clothed with erect, dusky hairs, intermixed with some recumbent, sericeous pubescence which is more evident on pronotum and basal half of hemelytra. Hemelytra rugulose, punctures rather indistinct, embolar margins only slightly arcuate; cuneus moderately deflexed, membrane well developed, color uniformly dark fuscous or blackish, extending beyond tip of cuneus for space equal to length of cuneus. Legs uniformly black, shining, without trace of paler areas. Venter black, shining.

Female. Length 5.3 mm. to tip of abdomen; brachypterous, membrane not extending beyond tip of cuneus, cells not developed, tip of abdomen exposed. Head: width 1.47 mm., vertex .82 mm. Rostrum, length 2.03 mm., reaching slightly beyond middle of hind coxae. Antennae: segment I, length .62 mm.; II, 1.77 mm.; III, 1.04 mm.; IV, 1.17 mm. Pronotum: length 1.06 mm., width at base 1.95 mm., anterior

angles prominent, width 1.3 mm. Hemelytra brachypterous, embolar margins arcuate, width 3.03 mm.; cuneus short, length .82 mm., apex rounded. Color and pubescence similar to the male.

Holotype: ♂ May 7, 1938, alt. 1000 ft., Lenore, Idaho (W. E. Shull); author's collection. *Allotype*: same data as the type. *Paratypes*: numerous specimens taken by Dr. Shull on wheat plants and wild grasses surrounding the fields; damage to wheat plants is reported. IDAHO—Lenore: 18 ♂, 25 ♀ May 19, 1937, alt. 1000 ft. (W. E. Shull); 6 ♂ 3♀, same date (R. E. Miller). Juliaetta: 4 ♂ 2 ♀ May 16, 1936, alt. 1083 ft. (T. A. Brindley); 2 ♂ 1 ♀, same date (R. E. Miller). Lewiston: 2 ♂ 3 ♀ May 17, 1936, (R. E. Rodock). OREGON—Le Grand: ♂ 2 ♀ May 12, 1930, alt. 2800 (H. A. Scullen). WASHINGTON—Anatone: 2 ♂ 1 ♀ May 16, 1937 (R. E. Rodock). Tampico: ♂ May 10, 1926 (E. W. Davis); 3 ♂ 3 ♀ May 16, 1932 (A. R. Rolfs). Tieton: 4 ♂ May 12, 1931 (F. P. Dean). Toppenish: 6 ♂ 4 ♀ May 15, 1926 (E. W. Davis). Yakima: 2 ♂ June 24, 1932 (A. R. Rolfs).

***Irbisia fuscipubescens* n. sp.**

Distinguished from allied species by the short, dark brown to fuscous pubescence; length of first antennal segment equal to (♂) or less than (♀) width of vertex; color black, tibiae yellow to fuscous.

Male. Length 5.5 mm., width 2.85 mm. Head: width 1.25 mm., vertex .58 mm.; basal carina apparent as a blunt ridge, impressed just before on base of vertex, frons moderately convex, smooth, shining, tylus moderately arcuate as viewed from the side, jugs and lora moderately tumid, eyes ovate as viewed from the side, golden brown; black, shining, sparsely clothed with golden brown pubescence. Rostrum, length 1.86 mm., reaching upon tips of middle coxae but not quite attaining posterior margins, black. Antennae: segment I, length .57 mm.; II, 1.64 mm., nearly cylindrical, equal to thickness of segment I although slightly more slender on basal half; III, .84 mm.; IV, .78 mm.; black. Pronotum: length 1.12 mm., width at base 2.05 mm.; disk moderately, evenly convex, coarsely rugulose punctate, shining black, ventral margin of propleura behind coxal cleft, white; lateral margins nearly straight, rather sharply angled to propleura, anterior angles distinct; calli moderately convex, a foveate impression on inner anterior angles, collar constriction sinuate

above; sparsely clothed with short, inconspicuous, golden brown to fuscous pubescence. Scutellum moderately convex, strongly transversely rugulose, punctures indistinct; mesoscutum narrowly exposed.

Hemelytra moderately convex, costal margins distinctly arcuate, costal edge sharp; black, shining, shallowly rugulose punctate, clothed with short, fine, suberect dark brown to fuscous pubescence; cuneus deflexed, subtriangular, outer margin slightly arcuate; membrane and veins uniformly blackish. Body color black, shining, ostiolar peritreme and narrowly bordering base of middle coxae, white; venter clothed with brown to fuscous pubescence. Legs black, tibiae except apices and knees, and tips of femora, yellow; hind tibiae frequently with basal one-third largely blackish.

Female. Length 5.5 mm., width 2.9 mm.; more robust than the male but very similar in color and pubescence, membrane well developed. Head: width 1.34 mm., vertex .69 mm. Rostrum, length 1.94 mm., reaching upon tips of middle coxae. Antennae: segment I, length .57 mm., distinctly less than width of vertex; II, 1.73 mm.; III, .99 mm.; IV, 1.14 mm. Pronotum: length 1.25 mm., width at base 2.12 mm.

Holotype: ♂ May 21, 1932, Tampico, Washington (A. R. Rolfs); author's collection. *Allotype*: same data as the type. *Paratypes*: 4 ♂ 5 ♀, taken with the types. WASHINGTON—Clear Lake: ♀ May 21, 1932 (A. R. Rolfs). Tampico: ♂ ♀ May 10, 1926 (E. W. Davis). Tieton: 3 ♂ 7 ♀ May 31, 1926 (E. W. Davis); 2 ♂ 2 ♀ May 21, 1932, Tieton Canyon (A. R. Rolfs). Toppenish: 2 ♂ 2 ♀ May 2, 1926, 7 ♂ 3 ♀ May 15, 1926 (E. W. Davis). ALBERTA—Banff: ♂ July 17, 1925 (Owen Bryant).

Irbisia elongata n. sp.

Differs from *californica* Van D. in the longer rostrum and more elongate body form; differs from *brachycera* Uhl. in the more elongate body form and in the longer antennal segments, the length of segment II greater than twice the width of vertex.

Male. Length 5.3 mm., width 2.1 mm. Head: width 1.3 mm., vertex .71 mm.; eyes prominent, rounded, vertex flat, basal carina indistinct; tylus arcuate as viewed from the side, juga tumid, lora strongly convex, a small yellow spot at base; black, shining, clothed with erect silvery hairs. Rostrum, length 2.16 mm., reaching to middle of hind coxae, yellowish

brown, last two segments becoming blackish. Antennae: segment I, length .74 mm., black, pale pubescent; II, 1.95 mm., cylindrical, brownish black, black on base and apex; III, 1.17 mm., black; IV, 1.04 mm., black. Pronotum: length 1.14 mm., width at base 1.86 mm.; disk moderately convex, coarsely rugulose punctate, calli moderately convex, depressed just behind; disk with lateral margins rounded, slightly concave, anterior angles bluntly prominent; clothed with erect, long silvery hairs and intermixed with sericeous pubescence; black, ventral margins of propleura whitish. Scutellum moderately convex, roughly transversely rugulose; mesoscutum moderately exposed.

Hemelytra convex, embolium sloping downward, costal margin distinctly arcuate yet not apparent as viewed from above; shallowly, rugulose punctate, black, moderately shining, clothed with suberect, pallid hairs and intermixed with silvery sericeous pubescence, stronger than in *brachycera* Uhl.; membrane pale brownish, veins dark brown. Body color black, ostiolar peritreme, margins of epimera and episterna bordering mesocoxae, pallid; venter shining, heavily clothed with erect pallid pubescence. Legs yellowish to white and marked with black, coxae black, apices and mark near base yellowish; femora more or less black on basal half, dorsal and ventral aspect yellowish, the dark color usually terminating in a series of dots, trochanters with black spot; tibiae yellowish to white, apex and spines black; tarsi and claws black.

Female. Length 6.2 mm., width 2.3 mm. Head: width 1.38 mm., vertex .78 mm. Rostrum, length 2.3 mm., reaching to middle of hind coxae. Antennae: segment I, length .74 mm.; II, 1.8 mm., dark brown, black at base; III, 1.08 mm.; IV, 1.04 mm. Pronotum: length 1.18 mm., width at base 1.9 mm. More robust than the male but very similar in color and pubescence; coxae more broadly and the xyphus, white.

Holotype: ♂ July 30, 1927, Sundance, Wyoming (H. H. Knight); author's collection. *Allotype*: same data as the type. *Paratypes*: ♀, taken with the types. IDAHO—Genesee: 2 ♂ May 23, 1936 (R. E. Miller). Juliaetta: 2 ♂ May 16, 1936 (R. E. Miller). WASHINGTON—Mt. Adams: 4 ♂ 8 ♀ June 26, 1932; ♂ Aug. 3, 1930 (A. R. Rolfs). "Wen. Mts.": 2 ♂ 6 ♀ July 9, 1930 (F. P. Dean & A. R. Rolfs). BRITISH COLUMBIA—Chilcotin: ♀ May 27, 1929 (G. J. Spencer).

Irbisia brachycera (Uhler)

1872 *Rhopalotomus brachycerus* Uhler, Hayden's Surv. Terr.,
Rept. for 1871, p. 416.

1921 *Irbisia arcuata* Van Duzee, Proc. Calif. Acad. Sci., (ser.
4) XI, p. 148.

In past years the identity of this species has been in doubt, and there is some confusion of records. The writer has examined the type specimen in the U. S. National Museum and made comparison with other Colorado specimens. The most distinctive characters mentioned in the original description are: "rostrum reaching upon the posterior coxae, yellowish"; . . . "apical half of coxae . . . yellowish white." The writer finds that a combination of these two characters will serve to separate *brachycera* Uhler from its nearest allies.

Records: COLORADO—"Colo." 1160, 1889, and 2076 (C. F. Baker). The type locality is recorded "Weld County," most likely from the vicinity of Fort Lupton. Fort Collins: ♂ ♀ June 12, ♀ June 28, 1900; ♂ ♀ June 29, 1901 (E. D. Ball). IOWA—Sioux City: ♂ June 13, 1922 (C. N. Ainslie). MONTANA—Sidney: 2 ♀ June 14, 1913. NEBRASKA—Pine Ridge, 1 ♀. Sioux County, 1 ♀. NORTH DAKOTA—♀ June 14, 1922, Beach (C. N. Ainslie). ALBERTA—Medicine Hat: ♂ May 18, 1926 (F. S. Carr).

BOOK NOTE.

Insetos do Brasil—vol. I, by A. da Costa Lima; pp. i-x + 1-470, figs. 1-217. Serie Didactica, no. 2, da Escola Nacional de Agronomia, Rio Janeiro (Brazil). (No price given.)

This work is a formal treatise on systematic entomology, with especial reference to the Brazilian entomofauna. It covers the Orders from Thysanura to Thysanoptera. The first chapter deals with general zoological classification and nomenclature; and the second with classification of insects and bibliography of entomology. In the succeeding chapters each Order is defined, its morphology and biology set forth, and its classification developed in excellent keys to the families. Each chapter carries an extended bibliography of the principal works on the Order. There is naturally, much stress on economic status. The general index includes names of authors as well as of groups, down to genera and species.

The book is paper bound, in accord with continental practice, and well printed on good book paper. It is an outstanding work; and we look forward to the volumes to follow. J. R. T.-B.